DOCUMENT RESUME

ED 316 032 FL 018 345

AUTHOR Dubinsky, Stanley
TITLE Modifiers, Quantifiers, and the Treatment of Japanese Numeral Expressions.
PUB DATE Dec 89
NOTE 14p.; Paper presented at the Annual Meeting of the Linguistic Society of America (64th, Washington, DC, December 27-30, 1989).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Grammar; *Japanese; *Linguistic Theory; Structural Analysis (Linguistics); Syntax; Uncommonly Taught Languages
IDENTIFIERS *Modifiers; *Numeric Expressions; *Quantifiers

ABSTRACT

Analysis of Japanese numeral expressions provides evidence that their two semantically distinct functions, attributive and partitive, can be associated with distinct syntactic positions within the noun phrase (NP). The attributive numeral phrase occupies the position of a modifier and is a complement to N or N'. The quantifier (partitive) numeral phrase is the head of its phrase and the NP is a complement to it. While both types of numeral phrases may occur to the right of a position, their distribution is constrained by different factors. The numeral quantifier must have as its complement a non-quantified, definite NP. These conditions being met, it may appear to the right of any postposition. On the other hand, numeral modifiers are simple modifiers of the head noun and not affected by the definiteness or quantification of the entire phrase. Their appearance to the right of postpositions is, however, constrained syntactically. Specifically, they may only move out of surface subjects and direct objects. (MSE)

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Stanley Dubinsky
University of Wisconsin - Madison

LSA Annual Meeting
Washington, D.C.
December 27-30, 1989

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Modifiers, Quantifiers, and the Treatment of Japanese Numeral Expressions*

Stanley Dubinsky
University of Wisconsin, Madison

1.0 Introduction

In Japanese, numeral phrases (NmP) may occur either within the NP (as shown in (1a) and (1b)) or outside of it (as in (1c)).

(1) a. [np sansatu no hon] ga
3.Cnt Gen book Nom

b. [np hon sansatu] ga

c. [np hon] ga sansatu

Articulation of the correct constraints on the acceptability of NP external NmPs has been the focus of some debate. In this paper, the inconsistent and sometimes contradictory findings found in previous work on the subject are argued to result from a failure to adequately distinguish between two types of NmPs: modifiers (which are generated as in (1a)) and true quantifiers (whose base generated position is reflected in (1b)). The NP external distribution of each is shown to be subject to different restrictions. An NP external quantifier may be construed with an NP regardless of case or grammatical function, but only if it is definite. Modifiers, on the other hand, are subject to no such definiteness restriction, but may only be moved from subjects and direct objects.

1.1 Previous Syntactic Analyses

The appearance of a NmP to the right of a postposition as in (1c) is an instance of a phenomenon often called Quantifier Floating (QF). Various accounts of QF have sought to make precise the fact that QF is not possible from just any nominal dependent. The observation is made in Okutsu 1969 that quantifiers can be floated from a nominal only when it is the subject or direct object of a sentence. Kamio (1973) noticed the metastratal nature of the QF condition, observing that the logical

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* In appreciation for their discussion, comments and criticisms, I acknowledge the following individuals for the development of the ideas contained in this paper: Masako Atake, Murvet Enc, Shoko Hamano, Kyle Johnson, William Ladusaw, Naomi Hanaoka McGloin, Kazuhiko Tajima, and Satoshi Tomioka. All errors and omissions are my responsibility alone.

subjects of passive constructions cannot float quantifiers, while surface subjects can. Kamio articulates the following constraint on QF that is sensitive to rule ordering:

> "Quantifiers cannot be postposed by Q-postposing if the NP they belong to is not the subject or the object of the sentence **at the point when the rule applies**." (emphasis mine)

Kamio's constraint presumably depends on the ordering of QF after passive. In Dubinsky 1990, the relational characterization of QF is made more precise. Specifically, QF is restricted to NPs which are surface (or final) subjects or direct objects at any level.

Shibatani (1977) states the restriction on QF in terms of surface cases rather than grammatical relations. He observes that the Experiencer subject of certain predicates, such as wakaru 'understand', is marked with the dative case marker ni and cannot float quantifiers. This is in spite of the fact that it exhibits other subject-like properties, such as the ability to antecede the reflexive zibun and to trigger subject honorification.

Miyagawa (1989) attributes the restrictions on QF licensing to the configurational differences between argument and adjunct postpositions, and the requirement that NPs c-command the external quantifiers with which they are construed. Accordingly, adjunct postpositions, such as kara 'from', form PPs and take the NPs they mark as complements. In so doing, they create a domain out of which the NP cannot c-command the floated quantifier. This account fares admirably in allowing QF from structurally cased marked NPs and disallowing it from adjuncts. However, it becomes rather stipulative in its treatment of dative (ni) marked NPs.

The various analyses articulated over the past twenty years all generally concur in the observation: (i) that QF is always allowed from nominative and accusative NPs (i.e. 'straight' subjects and direct objects), (ii) that it is never allowed from NPs having oblique postpositions such as kara 'from', de 'in,at', and to 'with', and (iii) that QF is permissible from some dative (ni) marked NPs but not from others.[1] That ni marked NPs do not all exhibit the same behavior is not surprising when it is noted that the postposition ni marks: indirect objects, logical subjects in passives, some Experiencer subjects, Locatives, and Sources.

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[1] Shibatani is alone in claiming that QF is never allowed from ni marked NPs, but his claim is now generally recognized as untenable (cf. Inoue 1978, Miyagawa 1989, Hamano 1989, Dubinsky 1990).

1.2 Hamano's Observations

Contrary to what has previously been observed in the literature, Hamano (1989) demonstrates that QF is actually possible in many of the environments that are normally held to be problematic or impossible for it. While QF is claimed never to be allowed from a Locative ni marked NP (cf. Miyagawa 1989), Hamano finds examples of such that are indeed acceptable. Compare Miyagawa's (36) with Hamano's (49), repeated here as (2) and (3).

(2) =(36) [Miyagawa 1989]
*Kodomotati wa kooen ni hutatu itta.
children Top park Loc 2.Cnt went
'The children went to two parks.'

(3) =(49) [Hamano 1989]
Kodomotati wa tikaku no kooen ni hutatu itte-mita.
children Top nieghborhood Gen park Loc 2.Cnt go-tried
'The children tried going to two of the neighborhood parks.'

Under the right circumstances, Hamano also finds it possible to get QF from NPs marked with oblique postpositions, such as to, de, and kara. (4) illustrates QF from NPs marked with the Commitative postposition to.[2]

(4) =(53) [Hamano 1989a]
Americajin no kenkyuu-sya to wa san-nin, Nihonjin
American Gen research-er Com Top 3-Cnt Japanese
no kenkyuu-sya to wa yo-nin hanasiatta.
Gen research-er Com Top 4-Cnt talked
'I talked with three (of the) American researchers and
four (of the) Japanese researchers.'

Given this evidence, it is fair to say that Hamano's claim that QF "occurs across the board regardless of case or grammatical function" is true.

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[2] (i) Hamano notes that QF from oblique NPs is further improved when the oblique postposition is iterated after the quantifier.

(ii) Evidence like (4) makes Miyagawa's argument/adjunct account of QF even more implausible. It is also evidence against Dowty and Brodie's (1984) prediction that QF is universally impossible from Oblique NPs.

2.0 Two Types of Numeral Expressions

The remainder of this paper seeks to demonstrate how these apparently opposing views of QF might be reconciled. Section 2.1 argues that there are two distinct types of NP internal NmPs, modifiers and quantifiers, each having distinct syntactic and semantic properties. Section 2.2 suggests that, while definiteness is not always morphologically salient in Japanese, it is still the case that only definite NPs may host quantifiers. Finally, section 2.3 proposes that, modulo the definiteness restriction, quantifiers may appear external to any NP, and that it is the NP external distribution of modifiers which is syntactically conditioned.

2.1 Modifiers vs. Quantifiers

NmPs that are construed with NPs can have two distinct functions, modificational or quantificational, and this difference is often both syntactically and semantically apparent. Modifier numerical expressions are attributive in nature and typically have the same syntactic distribution as other modificational phrases (i.e. they occur within the Spec position of NP). In English, the differences between numeral modifiers and numeral quantifiers are syntactically and semantically salient in definite NPs, as seen in (5).

(5) a. these three books (Modifier)
[these books, of which there are three]

b. three of these books (Quantifier)
[three out of the contextually salient set of books]

In Japanese as well, modifier NmPs have the same syntactic distribution as other noun modifiers. In each of the following cases in (6), the modifier is followed by the NP internal copula no.[3]

(6) a. san-satu no hon
3-Cnt is book
'books, of which there are three' ('three books')

b. gakusei no Taroo
student is
'Taro, who is a student'

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[3] The marker no is usually glossed as a genitive postposition, although it differs considerably from a prototypical genitive case marker (cf. (6b)). I will however gloss it as Gen throughout the remainder of this text.

c. byooki no kodomo
sick is child
'the child who is sick'

As in English, semantic differences in the interpretation of modifiers and quantifiers are only salient in definite NPs. Consider (7) and (8).

(7) a. Kono san-satu no hon o yonda.
this 3-Cnt Gen book Acc read
'I read these three books.'
#'I read three of these books.'

b. Koko ni aru san-satu no hon o yonda.
here Dat be.Imp 3-Cnt Gen book Acc read
'I read the three books that are here.'
#'I read three of the books that are here.'

(8) a. Kono hon san-satu o yonda.
this book 3-Cnt Acc read
'I read these three books.'

b. Koko ni aru hon san-satu o yonda.
here Dat be.Imp book 3-Cnt Acc read
'I read the three books that are here.'
'I read three of the books that are here.'

In (8), the NmP san-satu may have a quantificational or attributive interpretation (the latter due to movement of the modifier expression in (7)). In (7), on the other hand, san-satu may only have an attributive interpretation. Both the modifier and the quantifier may be moved to the right of the postposition, but only the quantifier may be scrambled to the left. Consider (9b).

(9) a. Kono hon o san-satu kaimasu.
this book Acc 3-Cnt buy
'I will buy these three books.'
'I will buy three copies of this book.'

b. San-satu kono hon o kaimasu.
3-Cnt this book Acc read
#'I will buy these three books.'
'I will buy three copies of this book.'[4]

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[4] Contrary to Haig's (1980) claim that the "partitive interpretation of a definite noun phrase requires that the quantifier follow" the quantified NP, scrambling the

The NmP san-satu in (9b) can only be a quantifier and since the NP is definite, the interpretation is unambiguously partitive.

Further evidence for the syntactic differences between the modifier and the quantifier comes from the existence of plural deictic determiners that do not cooccur with a quantifier. The proximal deictic determiner kono can be used with singular or plural expressions, and may be translated as either 'this' or 'these', dependent on context. Korera, on the other hand, is unambiguously a **plural** expression, and can only mean '**these**'. In (10), we observe the interpretation of a numeral expression in an NP having korera as its determiner.

(10) a. Korera no san-satu no hon o yonda.
these Gen 3-Cnt Gen book Acc read
'I read these three books.'

b. Korera no hon san-satu o yonda.
these Gen book 3-Cnt Acc read
'I read these three books.'
#'I read three of these books.'

Note that the NmP san-satu in (10b) only has an attributive reading, indicating that it is moved from the position occupied in (10a), and that NP internal (or NP adjacent) quantifiers cannot be generated with korera. The modifier san-satu may also be moved to the right of the postposition as in (11), with a single attributive reading.[5]

(11) Korera no hon o san-satu yonda.
these Gen book Acc 3-Cnt read
'I read these three books.'
#'I read three of these books.'

Additional evidence for this interpretation of the data comes from the facts in (12).

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floated quantifier to the left of the quantified NP is **more** likely to produce a partitive reading.

[5] Claiming that korera may only occur with a modifier and that modifiers may not be scrambled leftward predicts that san-satu korera no hon should be ill-formed. Indeed, most speakers do not accept this expression. Insofar as it was judged acceptable at all, it was deemed to have a partitive reading, indicating that it is a quantifier. This raises the possibility of base generating quantifiers **outside** of the NP, an issue which I will not pursue here.

(12) a. Kono hon ga is-satu irimasu.
this book Nom 1-Cnt need
'I need one of these books.'

b. *Korera no hon ga is-satu irimasu.
these Gen book Nom 1-Cnt need
('I need one of these books.')
(#'I need these one book(s).')

(12b) is ill-formed for the following reasons: (i) is-satu cannot be a quantifier since korera disallows it, making the partitive reading impossible, and (ii) the attributive reading with the **plural** deictic determiner korera and the **singular** numerical expression is-satu is incoherent. There are two possible explanations for the behavior of korera, one syntactic and one semantic: (i) if a quantifier is the head of its phrase, one might say that quantifiers may only take unquantified expressions as their complements, and that korera no hon is a quantified expression which cannot be the complement of a quantifier;[6] (ii) korera no hon might denote an intersection of a set of individuals rather than a group level individual, similar to the determiner both in English.[7] A full analysis of these facts will not be pursued here. In what follows, the determiner korera will be used to illustrate constraints on the movement of modifiers.

It is reasonable, then, given the obvious syntactic differences between modifiers

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[6] This view is confirmed by the inability of other, syntactically similar, quantified expressions to be complements to a quantifier.

(a) Ooku no hito (*hyaku-nin) ga kimasita.
many Gen person 100-Cnt Nom came
'Many people (*100) came.'

[7] This is what distinguishes both from the two and results in the following differences in behavior:

(a) The two students are a happy couple.
*Both students are a happy couple.

(b) One of the two students walked in the door.
*One of both students walked in the door.

For further discussion of this approach, see Ladusaw 1982 and 1985 (from which the above examples are drawn).

and quantifiers, to ascribe to them different configurational positions.[8]

(13) a. Modifier: [kono [**san-satu** no hon]]

b. Quantifier: [[kono hon] **san-satu**]

In (13b), the quantifier is taken to be the head of the quantified nominal. This accords with the head final nature of Japanese and the fact that san-satu in (13b) would be directly marked by a postpositional case marker. While the modifier in (13a) can apparently move into the position normally occupied by a quantifier the reverse is not true, hence the ambiguity of (8b).

2.2 Definiteness Restrictions on NP External Quantifiers

It is noted in previous work (Selkirk 1977, Barwise and Cooper 1981, Ladusaw 1982) that partitive constructions must contain definite NPs.[9] In the analysis of Japanese NmPs proposed here, this would mean that the NP complement of san-satu in (13b) must be definite, and that the partitive reading of an NP external NmP is restricted to those cases in which the NmP is a quantifier, moved out of phrase final position.

The immediate obstacle to making this claim lies in the fact that definiteness on NPs in Japanese is not necessarily signalled morphologically. While NPs containing the deictic determiners kono 'this' or sono 'that' are definite, there is no equivalent of the English definite determiner the and a bare noun may receive a definite or indefinite reading depending on context.

(14) a. Watasi wa Ziroo ni kuruma o kasita.
I Top Dat car Acc loaned
'I loaned Ziro (my) car.'

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[8] (13) reflects Jackendoff's (1977) analysis of attributive numerals as modifiers of N' and quantificational (or partitive) numerals as heads of their phrase. Notice also that the inability of a numeral quantifier to have the quantified korera no hon as a complement in (12), is supported in English, where a partitive quantifier may not have as its complement a quantified NP.

(a) *two of all (the) men

[9] In Barwise and Cooper's (1981) analysis, [+definite] NPs have as their denotations "proper principle filters".

b. Ano syoonin wa Ziroo ni kuruma o kasita.
that dealer Top Dat car Acc loaned
'That dealer loaned Ziro a car.'

In (14a), kuruma refers to 'my car' and is definite, while in (14b) it might simply refer to 'a car (pulled off the lot)'.

This being the case, it is significant that Hamano's (1989) examples of exceptionally floated NmPs all involve a high degree of contextually induced definiteness on the NP with which the NmP is construed. Hamano cites three types of modifications which allow NmPs to be floated regardless of case or grammatical function. First, a modified NP is more likely to allow a floated NmP than a bare noun in the relevant cases. Second, contrastive NPs (marked with contrastive wa) exceptionally allow floated NmPs (cf. example (4) above). Finally, the auxiliary construction V- te-miru meaning 'try out V-ing' (seen in example (3)) indicates that some subset of a contextually definite NP has been acted upon, and NmPs in such clauses may exceptionally float from their complements. In each of the relevant cases, an NmP is acceptably floated from a contextually definite NP that would not normally permit it, if the NP consisted of a bare noun. This, combined with the partitive reading assigned in these cases, indicates that: (i) only definite NPs may be compliments to true numeral quantifiers, and (ii) numeral quantifiers may float from NPs without regard to case or grammatical function.

2.3 Syntactic Constraints of NP External Modifiers

The movement of numeral modifiers, on the other hand, is claimed to be syntactically constrained according to grammatical function. If an NP is indefinite, it cannot be the complement to an NmP as shown in (13b). An NmP construed with an indefinite NP is an attributive and is generated as a modifier of the head noun (as in (13a)). This NmP may move rightward to the immediate left or right of the postposition. In order to move to the right of the postposition (to 'float'), the NP out of which it moves must either be a surface subject or an object at some level.[10] Thus, in the case of appropriate subjects and direct objects, both Modifier and Quantifier NmPs may float, and the presence of a floated NmP is not contingent on the definiteness of the NP with which it is construed. In the case of non-subjects and non-direct objects, floated NmPs must be Quantifers and the NP complement must be definite.

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[10] This disjunction refers to the fact that logical subjects cannot float Modifier NmPs if they are exceptionally case marked, while logical direct objects can do so. In Dubinsky (1990), this is used to argue for the initial direct object status of a certain class of surface indirect objects.

While it has been noted that exceptionally floated NmPs are all Quantifiers construed with definite NPs, it has not been established that cases in which the movement of NmPs is illicit necessarily involve Modifiers. Since indefinite NPs cannot host Quantifier NmPs, the distribution of Modifier NmPs might hypothetically be tested by restricting the cases to indefinite NPs. However, as has been noted, there is no morphological indication in Japanese that an NP is necessarily indefinite. One cannot argue that an NmP illicitly floated from a bare noun NP is necessarily a Modifier, since bare nouns may be definite or indefinite. On the other hand, it was also noted above that Quantifier NmPs cannot take as their complements already quantified NPs. For this reason, it was argued, the group- forming determiner korera 'these' cannot cooccur with a Quantifier NmP (cf. example (12b)). An NmP floated from an NP containing korera must therefore be a Modifier, and NPs containing this determiner can thus be used to determine the constraints on the movement of Modifier NmPs. Examples (15)-(18) demonstrate that a Modifier NmP may never be floated from a monostratal indirect object.[11]

(15) *Sensei wa korera no seito ni san-nin hon o ageta.
teacher Top these Gen student Dat 3-Cnt book Acc gave
('The teacher gave books to these three students.')

(16) *Wareware wa korera no suupaa ni san-sya yasai o syukka-sita.
we Top these Gen supermkt. Dat 3-Cnt vegetables Acc ship-did
('We shipped vegetables to these three supermarkets.')

(17) ??Taroo wa korera no sensei ni san-nin soodan-sita.
Top these Gen teacher Dat 3-Cnt consult-did
('Taro consulted these three teachers.')

(18) ??Watasi wa korera no kisya ni san-nin akusyu-sita.
I Top these Gen reporter Dat 3-Cnt shake.hands-did
('I shook hands with these three reporters.')

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[11] As alluded to above, a logical direct object which is a surface indirect object does allow a Modifier to float. These is seen in the case of verbs which lexically require their initial direct object to surface as an indirect object, such as au 'meet' and hairu 'enter'.

(a) Sensei ga korera no seito ni san-nin atta.
teacher Nom these Gen student Dat 3-Cnt met
'The teacher met with these three students.'

(b) Korera no mise ni san-gen haitta.
these Gen store Dat 3-Cnt entered
'I entered these three stores.'

In (15), due to the presence of korera, the NmP san-nin must be a Modifier and have moved from the position shown in (19a) rather than that in (19b).

(19) a. [korera no san-nin no seito]
b. *[[korera no seito] san-nin]

(15) compared with (3) demonstrates that the floating of Modifier NmPs is more constrained than that of Quantifier NmPs.

3.0 Conclusion

This paper has provided evidence that the two semantically distinct functions of numeral expressions, attributive and partitive, can be associated with distinct syntactic positions within the NP. The attributive numeral phrase occupies the position of a modifier and is a complement to N or N'. The Quantifier (or partitive) numeral phrase is the head of its phrase and the NP is a complement to it. While both types of numeral phrases may occur to the right of a postposition, their distribution is constrained by different factors. The numeral Quantifier must have as its complement a non-quantified, definite NP. These conditions being met, it may appear to the right of any postposition. On the other hand, numeral Modifiers are simple modifiers of the head noun and not affected by the definiteness or quantification of the entire phrase. Their appearance to the right of postpositions is, however, constrained syntactically. Specifically, they may only move out of surface subjects and direct objects.

References

Barwise, John, and Robin Cooper: 1981, "Generalized Quantifiers and Natural Language", Linguistics and Philosophy 4.2.

Dowty, David, and Belinda Brodie: 1984, "The Semantics of 'Floated' Quantifiers in a Transformationless Grammar", Proceedings of the Third West Coast Conference in Formal Linguistics.

Dubinsky, Stanley: 1990, "Japanese Direct Object to Indirect Object Demotion", in Joseph and Postal, eds. Studies in Relational Grammar 3, University of Chicago Press, Chicago.

Haig, John: 1980, "Some Observations on Quantifier Floating in Japanese", Linguistics 18, 1065-85.

Hamano, Shoko: 1989, "On Japanese Quantifier Floating", presented at LSA Annual Meeting, Washington D.C.

Inoue, Kazoku: 1978, Nihongo no Bunpookisoku, Taisyuukan Syoten, Tokyo.

Jackendoff, Ray: 1977, X' Syntax: A Study of Phrase Structure, MIT Press, Cambridge, MA.

Kamio, Akio: 1973, "Observations on Japanese Quantifiers", Studies in Descriptive and Applied Linguistics (ICU) 6, 69-92.

Ladusaw, William: 1982, "Semantic Constraints on the English Partitive Construction", Proceedings of the First West Coast Conference in Formal Linguistics.

Miyagawa, Shigeru: 1989, "Predication and Numeral Quantifiers", Proceedings of the Second Japanese Syntax Workshop, CSLI, Stanford University.

Selkirk, Elisabeth: 1977, "Some Remarks on Noun Phrase Structure", in Akmajian, Culicover, and Wasow (eds.), Studies in Formal Syntax, Academic Press, New York.

Shibatani, Masayoshi: 1977, "Grammatical Relations and Surface Cases", Language 53, 789-809.